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In the last few years, a rhetoric of inquiry has emerged to complement the rhetoric of the finished word. New interest in the "pre-writing" activities--e.g., audience analysis, concept formation, and the discovery of judgments which order and give meaning to experience--has manifested itself both in research into the nature of these activities and in the development of heuristic procedures to carry out these activities more efficiently. However, recent research has ignored the motivation for engaging in pre-writing activities. The very earliest stages of the writing process actually begin as the writer discovers that he is psychologically uncomfortable about some violation to his image of the world and wished to resolve the difficulty. He then analyzes and articulates the opposing components of his image, describes its origins, and specifies, in the form of a question, what he believes will resolve the inconsistency or eliminate the problem which is, at the outset, unknown to him. Because problems are important incentives to action, writing instruction should teach not only the nature and articulation of problems, but also should sharpen the student's awareness of his own cognitive life and encourage him to believe that events in it are appropriate subjects for investigation. (JB)

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PROBLEMS AND THE PROCESS OF WRITING[1]

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Recent work in rhetoric on concept formation and problem-solving--the so-called "pre-writing" activities--has ignored the motivation for engaging in these activities. Studies of cognitive dissonance offer an explanation, as well as a basis for a heuristic procedure for stating problems. An extension of pre-writing to include the perception and formulation of problems may enable the teacher to create classroom situations which more closely approximate actual writing situations, to teach the later stages of the writing process more effectively, and to increase student involvement.

Among the most significant of recent developments in rhetoric is an extension of the process of writing to include activities formerly considered to be, at most, ancillary to the process. Our rhetoric has been, on the whole, concerned with problems of style and editing. In the last few years, however, interest has increased in those activities which precede the act of composition, activities such as audience analysis, concept formation, invention (in the classical sense), and, perhaps most importantly, the discovery of judgments and generalizations which order and give meaning to experience. This interest has manifested itself in two ways: in research into the nature of these activities and, more often, in the development of sets of operations (i.e., heuristic procedures) which enable one to carry out the activities more deliberately and efficiently. In short, a rhetoric of inquiry is emerging which complements the rhetoric of the finished word.

The development is encouraging since historically the importance of rhetoric in the academic curriculum has been closely related to its capacity for dealing with content and inquiry. But as significant as the work in pre-writing is today, it leave me uneasy. For the same objection can be made to it as to the more conventional approaches to composition. It doesn't go far enough. Conventional approaches have been criticized for arbitrarily segmenting what is a continuous process at a fairly late stage, usually at the rough draft,

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and for saying little or nothing about the activities which precede this stage. "Traditional approaches to the writing process are...inadequate," argue Rohman and Wlecke (1964, p. 20), "if they fail to take account of the radically perspectival nature of writing. Typically such approaches stress only the virtues of hindsight--the 'rhetoric of the finished word'--without giving attention to the primary necessity of insight--the stage of discovery in shaping experience into persepctive." However, those working on concept formation and the discovery of ordering generalizations (e.g., Rohman & Wlecke, 1964; Larson, 1968; Jennings, 1968), the earliest stages of writing process studied so far, are open to the same criticism. They describe and illustrate procedures for controlling various cognitive acts but have little to say about why one performs these acts. They provide us with tools for doing something without explaining the motivation for doing it.

Perhaps the reason is that in the classroom the teacher supplies the motivation when he gives the student an assignment. Unlike his classical counterpart, the modern rhetorician has tended to address himself more to pedagogy than to problems of communication. And restricting our thinking to classroom problems has resulted in distorted and incomplete notions about the writing process. In less artificial situations, when the writer is not responding to an assignment, what is it that sends him in quest of new concepts, judgments, and ordering generalizations?

These activities are, I believe, responses to cognitive needs. Inquiry begins with the need to readjust one's thinking to continually emerging problems. The heuristic procedures discussed with increasing frequency in our journals are attempts to specify acts we can engage in to make these adjustments. And the finished work can be seen as a report on the adjustments we have made. To be sure, it is also, simultaneously, an instrument for adjusting our relations with others, a response to a social problem. I would like, however, to limit the discussion to writing as an expressive rather than an affective act, and to consider its earliest moments. Such a bias leads us to ignore important features of the writing process while focusing on others, but it is justified if it yields useful insights and enables us to avoid being overwhelmed by complexity.

If a problem lurks somewhere behind every written work, then the nature of problems and procedures for dealing with them become relevant concerns for rhetoricians. What follows is an effort to open up this stage of the writing process.

Problems do not exist independent of men. There are no problems floating around in the world out there waiting to be discovered; there are only problems for someone. For problems arise from inconsistencies among elements of the individual's cognitive system. We do not find problems, we create them.

One's cognitive system, his image of the world, is composed of values, beliefs, opinions, organized and unorganized information, all of which combine to form an exceedingly complex, more or less coherent system. Problems arise when one element of the image is perceived to be inconsistent with another, as, for example, when I begin to see that two theories which I have accepted are incompatible, or when a sentence I have written violates my knowledge of English grammar, or when actions of our government violate values to which I am deeply committed.[2]

It follows that because each of our cognitive systems is more or less unique, the problems which each of us has will also be more or less unique. For instance, a social system which is perfectly consistent with one man's image may be radically inconsistent with another's. Roy Wilkins remarked recently that white Americans "cannot believe that the system which serves them so well is as cruel and ruthless and brutal as the Negroes in the ghettos know it to be." The man who says he can't see what you're getting all worked up about is no doubt being quite honest. He really can't. The experience to which you respond with so much agitation simply does not clash with anything in his image. The magnitude of the inconsistency may also differ, so that what is a great problem for one is inconsequential for another.

If, as some say, one's image is his map of the world, it is a highly unusual map, for it is continuously in the process of readjusting itself, much as the lens of the eye changes its shape in response to variations in the distance of what is being observed. Conservative forces operate within the image to maintain its consistency and stability; when one becomes aware of an inconsistency in his image, pressures develop to eliminate it. Karl von Frisch, whose simple and elegant experiments with bees are models of scientific research, describes the origin of a forty-year investigation this way:

> About 1910 a famous ophthalmologist, Professor C. von Hess, performed many experiments on fishes, insects, and other lower animals. He tested them while they were in a positively phototactic condition--that is, under circumstances where they moved into the brightest available light. He found that in a spectrum the animals always collected in the green and the yellow-green region, which is the brightest part of the spectrum for a colorblind human eye. Therefore, von Hess asserted, fishes and invertebrates, and in particular bees, are totally colorblind. If this were true, the colors of flowers would have no biological significance. But I could not believe it, and my skepticism was the first motive which led me to begin my studies of bees about forty years ago (1960, p. 4).

The awareness of inconsistencies in one's image produces the wrinkled brow and uneasy feeling characteristic of the earliest stage of inquiry. If the inconsistency is sufficiently important, if we are sufficiently uncomfortable, we set about eliminating it. But how do we get enough control over this felt difficulty to begin systematic investigation? Usually we cannot press our inquiry to a satisfactory conclusion without first having a clear idea of the problem we are trying to solve. The more novel or complex the problem, the more essential it is that we understand it as clearly as possible. A false start as this stage of the inquiry affects all subsequent stages; what begins poorly is likely to end the same way. "One may have the most rigorous of methods during the later stages of investigation," says F. S. C. Northrop, "but if a false or superficial beginning has been made, rigor later on will never retrieve the situation. It is like a ship leaving port for a distant destination. A very slight erroneous deviation in taking one's bearings at the beginning may result in entirely missing one's mark at the end regardless of the sturdiness of one's craft or the excellence of one's subsequent seamanship (1965, p. 1)."

Control over a felt difficulty begins with its articulation. And this leads me to the second part of my discussion. Can we develop a set of operations, a heuristic procedure, which can help us articulate problems?

Two important components of any problem are already apparent i.e., the clashing elements in the image. It seems reasonable that these must be made explicit in an adequate statement of a problem. These in themselves, however, do not constitute a complete statement; together they constitute only a description of a problematic situation. A complete statement also includes a specification of the unknown--i.e., a statement of what it is that will enable us to

eliminate the inconsistency. Since this remains to be discovered, it is usually stated as a question. An adequate statement of a problem, then, has three basic components: the two opposing elements of the image and the unknown.

A statement of the unknown is actually a partial description of the solution.[3] As such it serves two functions (1) it serves as a guide for inquiry, for it specifies the critical features of the solution; and (2) it enables us to know when we have found it, for the solution will match the description. Riddles, which are really statements of unknowns, illustrate clearly their descriptive character. What's purple and lives at the bottom of the sea? or What goes on four feet, on two feet, and three, but the more feet it goes on the weaker it be? But riddles are designed to puzzle whereas a well-stated unknown facilitates inquiry. As John Dewey points out, it "decides which specific suggestions are entertained and which are dismissed; what data are selected and which rejected; it is the criterion for relevancy and irrelevancy of hypotheses and conceptual structures (1938, p. 108)."

Let me illustrate this with a simple example. Everyone has had the experience of being unable to recall a name which he knows perfectly well; there is a peculiar gap in his consciousness where the name should be. Here is a problematic situation for which the missing name is a solution. Usually we can give a partial description of the name. We may know, for instance, that it begins with "B" and has more than one syllable. Our inquiry is guided at the outset by this description. We seek our solution, not by searching through all the names that we know but through a sub-set having these two characteristics. The unknown solution, then, is not totally unknown; it is partially known, and a well-stated question includes this partial knowledge.[4]

Stating the two components of the problematic situation and then the unknown is a simple procedure for helping one move consciously and deliberately toward an adequate statement of the problem without waiting for unpredictable insights and without an excessive number of false starts. If it does not guarantee an adequately stated problem, it at least increases the chances of producing one. As far as I know, there is only one other such procedure currently used in rhetoric and that is the one which requires the writer to classify and state problems as problems of fact, value, means, probability, and meaning (e.g., Graves & Oldsey, 1963). Although it can help to sharpen our thinking, it is not a very powerful procedure. What is really being

classified is the unknown, and an unknown cannot be stated without first understanding the problematic situation. For it is a careful study of the problematic situation which largely determines the features of the unknown. The procedure fails to take account of the process which begins with a feeling of psychological discomfort, moves through a description of its origins, and only then to a description of what will eliminate it. The inadequacy of the current procedure illustrates the need for research on the psychological phenomena we seek to control and the relative effectiveness of our heuristic procedures.

Extending our conception of the writing process to include the earliest stage of inquiry has several important implications for the teaching of writing. For one, it can help the instructor create a classroom situation which more nearly approximates actual writing situations. When a teacher assigns a topic to the entire class, he does create a problem for the student, but it is the wrong kind. The impluse to write seldom springs from the student's effort to develop and maintain an ordered and meaningful image of the world, but rather from a desire to pass the course and avoid the various punishments which he knows await him if he fails. What student would ever write an essay comparing Ophelia and Desdemona or describing the furnishings of his room unless he were coerced into it by a teacher? He has more important things to think about. As an alternative, the student can be encouraged to isolate and come to terms with his own problems, any problems, so long as he believes they are important.

The discovery of an important problem and the discovery of a reasonable solution to an important problem are exciting and intrinsically rewarding activities, and they provide strong incentives for communication, as all of us know from our own experience. Once students have been adequately instructed, they have little trouble with that traditional problem of composition courses --finding something to say. They, like the rest of us, swim in a sea of problems, most inconsequential, but some capable of engrossing them and setting their minds in motion. Adequate instruction includes not only instruction in the nature and articulation of problems but sharpening the student's awareness of his own cognitive life and encouraging him to believe that events in it are worthy and appropriate subjects for investigation. Students tend to see the classroom and the problems of the classroom as divorced from the "real" world and the genuine problems which it poses for them. It takes some coaxing to convince them that a writing class provides an opportunity for confronting

the pressing issues of their lives. But we mangage this in courses in creative writing, so why not in composition courses?

Instruction in the early stages of the writing process also makes it easier to teach the later stages. Writing is not a linear activity; we don't complete one stage of the process and then move on to the next, as if we were following a receipe. The process is, rather, cumulative and cyclical throughout. The writer does not abandon what he has done once it has served its immediate purpose. He continually cycles back, exploiting in the later stages what he has learned earlier, and it might be added, often modifying his earlier thinking as a result of his efforts to communicate it. There is a much closer relation between the pre-writing and writing stages than is suggested by these terms, which imply a one-directional process. And the relation seems to involve not only matters of content but organization as well.

The statement of a problem illustrates the close relation of the pre-writing and writing stages, for although its immediate purpose is to initiate and guide inquiry, it often reappears in the discourse itself, formalized in the introduction. We have already seen an instance of this in the passage by Karl von Frisch (1960) in which he explains his motives for studying the color sense of bees. And that model of classical argument, the "Modest Proposal," begins, as you will recall, this way:

> It is a melancholy object to those who walk though this great town or travel in the country, when they see the streets, the roads, and cabin doors crowded with beggars of the female sex, followed by three, four, or six children, all in rags, and importuning every passenger for an alms. These mothers instead of being able to work for their honest livelihood, are forced to employ all their time in strolling to beg sustenance for their helpless infants, who, as they grow up, either turn thieves for want of work, or leave their dear native country, to fight for the Pretender in Spain or sell themselves to the Barbadoes.
>
> I think it is agreed by all parties, that this prodigious number of children in the arms, or on the backs, or at the heels of their mothers, and frequently of their fathers, is in the present deplorable state of the kingdom a very great additional grievance; and therefore whoever could find out a fair, cheap, and easy method of making these children sound and useful members of the common-wealth, would deserve so well of the public as to have his statue set up for a preserver of the nation.

Thievery, beggary, voluntary servitude are inconsistent with the proposer's values. Out of this problematic situation emerges a question to which the remainder of his argument is an answer: Is there a method for eliminating this condition that is fair, cheap, and easy? The statement of the problem provides the context within which the subsequent argument becomes meaningful, and it describes the characteristics of the solution. (It is interesting that the values which help to create the proposer's problem do not appear in the statement of the unknown; the humane values apparent in the problematic situation are replaced by those of the economist and efficiency expert. The inadequately stated unknown provides the first symptom of the proposer's moral imbalance.)

Although it is disturbingly easy to ignore the problems of others, no one can ignore a problem which is, to him, real and important. All of us are deeply interested in our own problems, for they reflect what we are as individual human beings. Furthermore, coming to terms with problems is necessary for preserving our psychological stability and for adjusting ourselves to the world. Thus problems are important motivations to action: none of us needs to be prodded to solve a real problem any more than we need to be urged to eat when we are hungry (Festinger, 1965, p. 3). Much could be done to solve the teacher's perennial problem of student motivation if our methods were rooted in these facts of human behavior.

The good student is not one who has learned his lessons so well that he has no problems; he is the one who has learned them so well that he begins to see significant ones. Problems are not indications of personal incapacity; their existence indicates that one is alive to himself and the world. They do not indicate weakness; they mark the points at which the mind is growing. For some time I have studied the work of Herbert Kohl (1967) and John Holt (1964, 1967), trying to determine whether they are successful teachers because they are Herbert Kohl and John Holt or because they are doing something which others can learn to do. Their success in involving students in the educational process stems, I think, from developing methods which reflect the deep commitment of the individual human being to his psychological life and the great desire he has to create order and meaning there.

Footnotes

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[2]The summary of the origin and nature of problems presented here is based, in part, on Leon Festinger's Theory of Cognitive Dissonance, Stanford: Stanford University Press, 1965. Festinger's theory seems particularly useful for our purposes, more so than comparable theories, because problems are seen as needs which lead to actions in the external world as well as in the mind because of the relatively broad and loose definitions of dissonance and because of the absence of mathematical computation. For a discussion of alternative theories, see Roger Brown's "Models of Attitude Change," New Directions in Psychology, New York: Holt, Rinehart and Winston, 1962.

[3]For a discussion of the unknown as a partial description of the solution, see Walter R. Reitman's Cognition and Thought: An Information-Processing Approach, New York: John Wiley and Sons, 1965, pp. 125-165.

[4]Compare the following passage by William James:

> Suppose we try to recall a forgotten name. The state of our consciousness is peculiar. There is a gap therein; but no mere gap. It is a gap that is intensely active. A sort of wraith of the name is in it, beckoning us in a given direction, making us at moments tingle with the sense of our closeness and then letting us sink back without the longed-for term. If wrong names are proposed to us, this singularly definite gap acts immediately so as to negate them. They do not fit into its mould. And the gap of one word does not feel like the gap of another, all empty of content as both might seem necessarily to be when described as gaps.

Quoted and discussed in Roger Brown and David McNeill, "The 'Tip of the Tongue' Phenomenon," Journal of Verbal Learning and Verbal Behavior, 1966, 5, 325-337.

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